**Unit 6: Mendelian Genetics**

**Read:**  Chapters 14 and 15

**Videos**: Bozeman #29, 30, 33, 34, 53, Probability in Genetics

Bozeman Labs #7, Chi-Squared Test

**Objectives**:

1. How do the events of meiosis explain the observations of Gregor Mendel?
2. How do the events of meiosis explain the observations of Thomas Morgan?
3. How can recombination during meiosis be explained?
4. How can recombination during meiosis be utilized to locate genes on chromosomes and establish their relative distances?
5. How do the processes of segregation and independent assortment explain Mendelian and non-Mendelian inheritance patterns?
6. How do the processes of meiosis explain the inheritance patterns of unlinked and linked genes?
7. How do the examples discussed in c demonstrate different modes of inheritance?
8. What are some of the ethical, social, and medical issues surrounding human genetic disorders?
9. How do the interactions of multiple genes affect inheritance patterns and the expression of particular phenotypes?
10. How does the location of genes on sex chromosomes affect inheritance patterns and the expression of particular phenotypes?
11. How does the transmission of non-nuclear genes affect inheritance patterns and the expression of particular phenotypes?
12. Compare and contrast the different processes in which genetic variation is produced.
13. Explain the relationship between an organism’s environment, its genome, and its phenotype. Cite specific examples.